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ILOAD\_X stack replace with

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The patterns **replace** each combination of operands with wildcards. ... The instruction set is small and mostly **stack** based and uses numbered "local ...

[www.cs.pdx.edu/~apt/cs510jip\\_1998/jags\\_report/report.html](http://www.cs.pdx.edu/~apt/cs510jip_1998/jags_report/report.html) - 25k - [Cached](#) - [Similar pages](#)

**Demo 1 ...**

We generalize this conjecture, **replacing** (ISORT X2) by IT. ... INSTANCE TH)) (MODIFY TH S1 :CALL-STACK (PUSH (MAKE-FRAME 0 (REVERSE (BIND-FORMALS (+ ...

[www.cs.utexas.edu/users/moore/publications/talks/cadiz-03.demolog](http://www.cs.utexas.edu/users/moore/publications/talks/cadiz-03.demolog) - 98k - [Cached](#) - [Similar pages](#)

**The Apprentice Example J Strother Moore and George Porter Roughly ...**

The lemma above will essentially **replace** ; (program frame) by (program1 class

... Let the car of threads be (i call-**stack** status rref) and ; let the car of ...

[www.cs.utexas.edu/users/moore/publications/marktoberdorf-02/apprentice.lisp](http://www.cs.utexas.edu/users/moore/publications/marktoberdorf-02/apprentice.lisp) - 96k - [Cached](#) - [Similar pages](#)

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**[PDF] Translation of Smart Card Applications for Formal Verification**

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**Iload\_x** Push local variable x, being an integer, onto the operand **stack**. ...

**replacing** each push onto the **stack** with an assignment to a new local variable. ...

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**Web**Results 1 - 10 of about 11 for ILOAD\_X sun Microsystems. (0.31 seconds)**cs510jip Compressed class Loader**

In the short time since its launch, **Sun Microsystems's** Java Technology has become almost synonymous with ... **ILOAD\_x** -> **ISTORE\_x**, **ILOAD\_ISTORE**, 4 bits ...  
[www.cs.pdx.edu/~apt/cs510jip\\_1998/jags\\_report/report.html](http://www.cs.pdx.edu/~apt/cs510jip_1998/jags_report/report.html) - 25k - [Cached](#) - [Similar pages](#)

**[PDF] Assembly Language through the Java Virtual Machine**

File Format: PDF/Adobe Acrobat

**Sun Microsystems** provides detailed instructions. to download the Java environment for Win32 ... one byte instruction **iload\_x** which implies local variable x, ...  
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**[PS] An Energy Consumption Model for Java Virtual Machine Se'bastien ...**File Format: Adobe PostScript - [View as Text](#)

3.1 Measurements methodology We chose the **Sun Microsystems** K Virtual Machine (KVM), CLDC v1.0.3, as it has been ... **iload\_x** became the most efficient opcode. ...  
[www.tucs.fi/publications/attachment.php?fname=TR597.ps.gz](http://www.tucs.fi/publications/attachment.php?fname=TR597.ps.gz) - [Similar pages](#)

**[PDF] An Energy Consumption Model for Java Virtual Machine**File Format: PDF/Adobe Acrobat - [View as HTML](#)

we chose The **Sun Microsystems** k Virtual Machine (KVM), CLDC v1.0.3, as ... variables then **iload\_x** became The most efficient opcode. ...  
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**[PDF] Translation of Smart Card Applications for Formal Verification**File Format: PDF/Adobe Acrobat - [View as HTML](#)

**iload\_x** Push local variable x, being an integer, onto the operand stack. ... **Sun Microsystems**. Java. card. 2.1.1. virtual. machine. specification. ...  
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**[DOC] Abstract**File Format: Microsoft Word - [View as HTML](#)

the command **iload\_X** or **iload X** used in Figure 3 loads the content from ... the Java Virtual Machine Specification second Edition, **Sun Microsystems** Inc. ...  
[wendtstud1.hpi.uni-potsdam.de/sysmod-seminar/SS2005/elaborations/03-JVM-JRockit.doc](http://wendtstud1.hpi.uni-potsdam.de/sysmod-seminar/SS2005/elaborations/03-JVM-JRockit.doc) - Supplemental Result - [Similar pages](#)

**[PDF] BEA-JRockit, a Java Virtual Machine for server-side use**File Format: PDF/Adobe Acrobat - [View as HTML](#)

the command **iload\_X** or **iload X**. used in Figure 3 loads the content from position X. in the local variables array to the ... Edition", **Sun Microsystems** Inc. ...  
[wendtstud1.hpi.uni-potsdam.de/sysmod-seminar/SS2005/elaborations/03-JVM-JRockit.pdf](http://wendtstud1.hpi.uni-potsdam.de/sysmod-seminar/SS2005/elaborations/03-JVM-JRockit.pdf) - Supplemental Result - [Similar pages](#)

**[PDF] JSTARTM - Synthesizable Java Coprocessor**File Format: PDF/Adobe Acrobat - [View as HTML](#)

**Sun Microsystems**: PersonalJava VM. Wind River Systems: Personal JWorks . その他、Java互換VM全て ... **iload**, **lload**, **fload**, **dload**, **aload**, **iload\_x**, ...  
[www.nazomi.com/images/MIPS\\_PTB\\_JapaneseLoRes.pdf](http://www.nazomi.com/images/MIPS_PTB_JapaneseLoRes.pdf) - Supplemental Result - [Similar pages](#)

**[PDF] THESE Construction Correcte de Logiciels pour Carte à Puce**File Format: PDF/Adobe Acrobat - [View as HTML](#)

... Spécification formelle de la vérification de l'instruction **aaload** \_\_\_\_\_  
 145 Figure 4-9 La spécification écrite par **Sun** du composant ...  
[www.gemplus.nl/smart/r\\_d/publications/pdf/Cas02phd.pdf](http://www.gemplus.nl/smart/r_d/publications/pdf/Cas02phd.pdf) - Supplemental Result - [Similar pages](#)

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ILOAD\_X sun Microsystems

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Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	6	((cap adj2 file\$1) and (smart adj2 card))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/07/09 16:10
S2	5	(Java same (cap adj2 file\$1))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 09:11
S3	14072	(subscrib\$4 or Java or smart) adj3 (card\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 10:23
S4	54	(class near3 loader\$4) and ((Java adj class) near3 file\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 10:26
S5	141	("16-bit" or "8-bit") near3 (instruction\$1 adj2 (set or architecture))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 10:38
S6	5	(Java and (cap adj file\$1))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 10:56
S7	760	"16-bit" adj3 (processor or architecture)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 10:56
S8	2490	(smart adj card\$1) near2 (computer\$1 or architecture\$1 or processor\$1 or device\$1 or program\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 11:05
S9	15	("16-bit" adj3 (processor or architecture)) and (smart adj2 card\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 11:03

S10	17332736	@ad<="19990202" or @rld<="19990202"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 08:43
S11	7785	((subscrib\$4 or Java or smart) adj3 (card\$1)) and (@ad<="19990202" or @rld<="19990202")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 11:05
S12	7836	((subscrib\$4 or Java or smart) adj3 (card\$1)) and (@ad<="19990202" or @rld<="19990202")) or ((class near3 loader\$4) and ((Java adj class) near3 file\$1))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 11:05
S13	1276	((subscrib\$4 or Java or smart) adj3 (card\$1)) and (@ad<="19990202" or @rld<="19990202")) or ((class near3 loader\$4) and ((Java adj class) near3 file\$1))) and ((smart adj card\$1) near2 (computer\$1 or architecture\$1 or processor\$1 or device\$1 or program\$5))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 11:06
S14	961	(type or pointer) adj2 safe	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 11:09
S15	1572	(object adj oriented) and ( (class or interface or array) adj2 type)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 11:12
S16	44	((type or pointer) adj2 safe) and ((object adj oriented) and ( (class or interface or array) adj2 type))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 11:13
S17	4	((Java adj class) adj2 file\$1) and ((((subscrib\$4 or Java or smart) adj3 (card\$1)) and (@ad<="19990202" or @rld<="19990202")) or ((class near3 loader\$4) and ((Java adj class) near3 file\$1))) and ((smart adj card\$1) near2 (computer\$1 or architecture\$1 or processor\$1 or device\$1 or program\$5)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 11:15

S18	6	Garney.in. and (smart adj card)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 12:03
S19	12	Baentsch.in. and (smart adj card)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 12:06
S20	8	(Baentsch.in. and (smart adj card)) and (smart adj card).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 13:24
S21	13	((convert\$4 adj2 applet) or CAP adj2 file\$1) and class\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 13:30
S22	3	((convert\$4 adj2 applet) or ".CAP" or ".cap") adj2 file\$1) and class\$3	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 13:33
S23	6	Schwabe.in. and (virtual adj machine)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 13:33
S24	2	(Schwabe.in. and (virtual adj machine)) and (@ad<="19990202" or @rld<="19990202")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 13:40
S25	2	"6092147".URPN.	USPAT	OR	ON	2003/01/14 13:35
S26	4	(chen.in. and ( code near8 validation)) and @pn<>" "	USPAT	OR	ON	2003/01/14 13:40
S27	2	((chen.in. and ( code near8 validation)) and @pn<>" ") and (@ad<="19990202" or @rld<="19990202")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 13:57
S28	23	"5996076".URPN.	USPAT	OR	ON	2003/01/14 13:44
S29	48	((constant adj pool) near3 (indic\$3 or index)) and (Java or (class\$3 near5 load\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 13:57

S30	35	((constant adj pool) near3 (indic\$3 or index)) and (Java or (class\$3 near5 load\$4))) and (@ad<="19990202" or @rld<="19990202")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 14:03
S31	1	((((constant adj pool) near3 (indic\$3 or index)) and (Java or (class\$3 near5 load\$4))) and (@ad<="19990202" or @rld<="19990202")) and (((convert\$4 adj2 applet) or CAP) adj2 file\$1) and class\$3) or (smart adj card\$1))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 13:58
S32	2	"5999732".URPN.	USPAT	OR	ON	2003/01/14 13:59
S33	5	((((constant adj pool) near3 (indic\$3 or index)) and (Java or (class\$3 near5 load\$4))) and (@ad<="19990202" or @rld<="19990202")) and (download\$4 near4 (software or program))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 14:04
S34	4	Baentsch.in. and (constant adj pool)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/14 16:18
S35	4	(Beantsch or Buhler or oestreicher).in. and (constant adj pool)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 08:40
S36	17	(smart adj card) and (constant adj pool)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 08:52
S37	5	((smart adj card) and (constant adj pool)) and (@ad<="19990202" or @rld<="19990202")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 08:51

S38	57	((US-4587612-\$ or US-5650948-\$ or US-5634118-\$ or US-5619666-\$ or US-5577233-\$ or US-5574927-\$ or US-5542059-\$ or US-5535329-\$ or US-5490256-\$ or US-5481684-\$ or US-5430862-\$ or US-5355460-\$ or US-5335344-\$ or US-5333296-\$ or US-5313614-\$ or US-5241636-\$ or US-5218711-\$ or US-5201056-\$ or US-5193180-\$ or US-5163139-\$ or US-5142681-\$ or US-5136696-\$ or US-5113522-\$ or US-5077657-\$ or US-4961141-\$ or US-4860191-\$).did. or (US-4783738-\$ or US-4763255-\$ or US-4631663-\$ or US-6131144-\$ or US-6026485-\$ or US-6021469-\$ or US-5999731-\$ or US-5983334-\$ or US-5953741-\$ or US-5937193-\$ or US-5923892-\$ or US-5903761-\$ or US-5898885-\$ or US-5898850-\$ or US-5889996-\$ or US-5875336-\$ or US-5838165-\$ or US-5809336-\$ or US-5794068-\$ or US-5784584-\$ or US-5781750-\$ or US-5778178-\$ or US-5774868-\$ or US-5768593-\$ or US-5764908-\$ or US-5761477-\$ or US-5692170-\$).did. or (US-5659703-\$ or US-6209077-\$ or US-6167488-\$ or US-6158048-\$).did.) and (@ad<="19990202" or @rlfd<="19990202")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 08:51
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S39	5	(((US-4587612-\$ or US-5650948-\$ or US-5634118-\$ or US-5619666-\$ or US-5577233-\$ or US-5574927-\$ or US-5542059-\$ or US-5535329-\$ or US-5490256-\$ or US-5481684-\$ or US-5430862-\$ or US-5355460-\$ or US-5335344-\$ or US-5333296-\$ or US-5313614-\$ or US-5241636-\$ or US-5218711-\$ or US-5201056-\$ or US-5193180-\$ or US-5163139-\$ or US-5142681-\$ or US-5136696-\$ or US-5113522-\$ or US-5077657-\$ or US-4961141-\$ or US-4860191-\$).did. or (US-4783738-\$ or US-4763255-\$ or US-4631663-\$ or US-6131144-\$ or US-6026485-\$ or US-6021469-\$ or US-5999731-\$ or US-5983334-\$ or US-5953741-\$ or US-5937193-\$ or US-5923892-\$ or US-5903761-\$ or US-5898885-\$ or US-5898850-\$ or US-5889996-\$ or US-5875336-\$ or US-5838165-\$ or US-5809336-\$ or US-5794068-\$ or US-5784584-\$ or US-5781750-\$ or US-5778178-\$ or US-5774868-\$ or US-5768593-\$ or US-5764908-\$ or US-5761477-\$ or US-5692170-\$).did. or (US-5659703-\$ or US-6209077-\$ or US-6167488-\$ or US-6158048-\$).did.) and (@ad<="19990202" or @rld<="19990202")) and ((smart adj card) or (constant adj pool))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 08:52
S40	29	(US-6366876-\$ or US-6363523-\$ or US-6308317-\$ or US-6282522-\$ or US-6236909-\$ or US-6005942-\$ or US-5844218-\$ or US-5757918-\$ or US-5742845-\$ or US-6092147-\$ or US-5740441-\$ or US-6081850-\$ or US-5822784-\$ or US-6279030-\$ or US-5996076-\$ or US-6260187-\$ or US-6081665-\$ or US-6332215-\$ or US-6311165-\$ or US-6253215-\$ or US-6061520-\$ or US-6026485-\$ or US-5999731-\$).did. or (US-20020059475-\$ or US-20020198837-\$).did. or (WO-9949392-\$).did. or (US-6272607-\$ or EP-964361-\$ or EP-964370-\$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2003/01/15 08:56

S41	5	((US-6366876-\$ or US-6363523-\$ or US-6308317-\$ or US-6282522-\$ or US-6236909-\$ or US-6005942-\$ or US-5844218-\$ or US-5757918-\$ or US-5742845-\$ or US-6092147-\$ or US-5740441-\$ or US-6081850-\$ or US-5822784-\$ or US-6279030-\$ or US-5996076-\$ or US-6260187-\$ or US-6081665-\$ or US-6332215-\$ or US-6311165-\$ or US-6253215-\$ or US-6061520-\$ or US-6026485-\$ or US-5999731-\$).did. or (US-20020059475-\$ or US-20020198837-\$).did. or (WO-9949392-\$).did. or (US-6272607-\$ or EP-964361-\$ or EP-964370-\$).did.) and ((smart adj card) and (constant adj pool))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 08:56
S42	3	((smart adj card) and (constant adj pool)) and (@ad<="19990202" or @rlfd<="19990202")) not ((Sun adj Microsystems).as.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 10:57
S43	29	(US-6366876-\$ or US-6363523-\$ or US-6308317-\$ or US-6282522-\$ or US-6236909-\$ or US-6005942-\$ or US-5844218-\$ or US-5757918-\$ or US-5742845-\$ or US-6092147-\$ or US-5740441-\$ or US-6081850-\$ or US-5822784-\$ or US-6279030-\$ or US-5996076-\$ or US-6260187-\$ or US-6081665-\$ or US-6332215-\$ or US-6311165-\$ or US-6253215-\$ or US-6061520-\$ or US-6026485-\$ or US-5999731-\$).did. or (US-20020059475-\$ or US-20020198837-\$).did. or (WO-9949392-\$).did. or (US-6272607-\$ or EP-964361-\$ or EP-964370-\$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2003/01/15 11:55
S44	3	((smart adj card) and (constant adj pool)) and (@ad<="19990202" or @rlfd<="19990202")) not ((Sun adj Microsystems).as.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 12:35

S45	3	((US-6366876-\$ or US-6363523-\$ or US-6308317-\$ or US-6282522-\$ or US-6236909-\$ or US-6005942-\$ or US-5844218-\$ or US-5757918-\$ or US-5742845-\$ or US-6092147-\$ or US-5740441-\$ or US-6081850-\$ or US-5822784-\$ or US-6279030-\$ or US-5996076-\$ or US-6260187-\$ or US-6081665-\$ or US-6332215-\$ or US-6311165-\$ or US-6253215-\$ or US-6061520-\$ or US-6026485-\$ or US-5999731-\$).did. or (US-20020059475-\$ or US-20020198837-\$).did. or (WO-9949392-\$).did. or (US-6272607-\$ or EP-964361-\$ or EP-964370-\$).did.) and (((smart adj card) and (constant adj pool)) and (@ad<="19990202" or @rlfd<="19990202")) not ((Sun adj Microsystems).as.) )	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 10:57
S46	2	((US-6366876-\$ or US-6363523-\$ or US-6308317-\$ or US-6282522-\$ or US-6236909-\$ or US-6005942-\$ or US-5844218-\$ or US-5757918-\$ or US-5742845-\$ or US-6092147-\$ or US-5740441-\$ or US-6081850-\$ or US-5822784-\$ or US-6279030-\$ or US-5996076-\$ or US-6260187-\$ or US-6081665-\$ or US-6332215-\$ or US-6311165-\$ or US-6253215-\$ or US-6061520-\$ or US-6026485-\$ or US-5999731-\$).did. or (US-20020059475-\$ or US-20020198837-\$).did. or (WO-9949392-\$).did. or (US-6272607-\$ or EP-964361-\$ or EP-964370-\$).did.) and ("16-bit" adj2 (instruction or architecture or bus or computer or platform or microprocess\$5 or integer\$1))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 11:37
S47	1	Schlumberger.as. and (JVM same card\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 11:10
S48	136	Schlumberger.as. and (integrated same card\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 11:10

S49	4	((US-6366876-\$ or US-6363523-\$ or US-6308317-\$ or US-6282522-\$ or US-6236909-\$ or US-6005942-\$ or US-5844218-\$ or US-5757918-\$ or US-5742845-\$ or US-6092147-\$ or US-5740441-\$ or US-6081850-\$ or US-5822784-\$ or US-6279030-\$ or US-5996076-\$ or US-6260187-\$ or US-6081665-\$ or US-6332215-\$ or US-6311165-\$ or US-6253215-\$ or US-6061520-\$ or US-6026485-\$ or US-5999731-\$).did. or (US-20020059475-\$ or US-20020198837-\$).did. or (WO-9949392-\$).did. or (US-6272607-\$ or EP-964361-\$ or EP-964370-\$).did.) and ("16-bit")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 11:13
S50	268	("16-bit" near5 (instruction\$1 or architecture or microcontroller\$1 or DSP or (portable adj3 device\$1)) ) and (download\$4 and (integrat\$4 or embedd\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 11:40
S51	72	((("16-bit" near5 (instruction\$1 or architecture or microcontroller\$1 or DSP or (portable adj3 device\$1)) ) and (download\$4 and (integrat\$4 or embedd\$4))) and ("16-bit" adj4 (microcontroller\$1 or DSP or (portable adj3 device\$1)) )	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 11:41
S52	54	((("16-bit" near5 (instruction\$1 or architecture or microcontroller\$1 or DSP or (portable adj3 device\$1)) ) and (download\$4 and (integrat\$4 or embedd\$4))) and ("16-bit" adj4 (microcontroller\$1 or DSP or (portable adj3 device\$1)) )) and ((@ad<="19990202" or @rld<="19990202") not ((Sun adj Microsystems).as.) )	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 11:46
S53	4	((("16-bit" near5 (instruction\$1 or architecture or microcontroller\$1 or DSP or (portable adj3 device\$1)) ) and (download\$4 and (integrat\$4 or embedd\$4))) and ("16-bit" adj4 (microcontroller\$1 or DSP or (portable adj3 device\$1)) )) and ((@ad<="19990202" or @rld<="19990202") not ((Sun adj Microsystems).as.) )) and ((byte adj code) or JVM or (applet\$1) or Java)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 11:44

S54	6	"16-bit" near3 (( smart or (integrated adj circuit) or ID or wallet\$1) adj2 card\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 11:56
S55	3	("16-bit" near3 (( smart or (integrated adj circuit) or ID or wallet\$1) adj2 card\$1)) and ((@ad<="19990202" or @rld<="19990202") not ((Sun adj Microsystems).as.) )	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 11:46
S56	10	"5724279".URPN.	USPAT	OR	ON	2003/01/15 11:52
S57	2637	(( in adj2 line\$1) near4 (data or operation\$1 or instruction\$1))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/01/15 17:35
S58	2507	(717/108,115-118,136-167, 174-178).CCLS.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2003/01/16 13:15
S59	1	((inlin\$4 adj2 (data\$1 or operand\$1)) near6 instruction\$1) and (constant adj pool\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/07/09 16:21
S60	0	((transform\$4 or convert\$4) near3 (reference\$1 near5 (constant adj pool\$1))) same (instruction\$1 near3 inlin\$3)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2003/07/09 16:22
S61	0	((inlin\$4 adj2 operand\$1) near6 instruction\$1) and (constant adj pool\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/14 15:40
S62	1	((inlin\$4 adj2 data) near7 (operand\$1 or instruction\$1)) and (constant adj pool\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/14 16:16
S63	8	((("6272674") or ("6349344") or ("6195700") or ("6399820")).PN.	US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2004/05/14 16:17

S64	31	(US-6260187-\$ or US-6081665-\$ or US-6061520-\$ or US-6026485-\$ or US-6253215-\$ or US-6332215-\$ or US-5999731-\$ or US-6279030-\$ or US-5740441-\$ or US-6366876-\$ or US-6363523-\$ or US-6311165-\$ or US-6308317-\$ or US-6282522-\$ or US-6236909-\$ or US-6005942-\$ or US-5923884-\$ or US-5844218-\$ or US-5757918-\$ or US-5742845-\$ or US-5724279-\$ or US-6081850-\$ or US-5822784-\$ or US-6092147-\$ or US-5996076-\$).did. or (US-20020059475-\$ or US-20020198837-\$).did. or (WO-9949392-\$).did. or (US-6272607-\$ or EP-964361-\$ or EP-964370-\$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	OFF	2004/05/14 17:05
S65	22	((US-6260187-\$ or US-6081665-\$ or US-6061520-\$ or US-6026485-\$ or US-6253215-\$ or US-6332215-\$ or US-5999731-\$ or US-6279030-\$ or US-5740441-\$ or US-6366876-\$ or US-6363523-\$ or US-6311165-\$ or US-6308317-\$ or US-6282522-\$ or US-6236909-\$ or US-6005942-\$ or US-5923884-\$ or US-5844218-\$ or US-5757918-\$ or US-5742845-\$ or US-5724279-\$ or US-6081850-\$ or US-5822784-\$ or US-6092147-\$ or US-5996076-\$).did. or (US-20020059475-\$ or US-20020198837-\$).did. or (WO-9949392-\$).did. or (US-6272607-\$ or EP-964361-\$ or EP-964370-\$).did.) and (smart adj2 card)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/14 17:06

S66	4	(((US-6260187-\$ or US-6081665-\$ or US-6061520-\$ or US-6026485-\$ or US-6253215-\$ or US-6332215-\$ or US-5999731-\$ or US-6279030-\$ or US-5740441-\$ or US-6366876-\$ or US-6363523-\$ or US-6311165-\$ or US-6308317-\$ or US-6282522-\$ or US-6236909-\$ or US-6005942-\$ or US-5923884-\$ or US-5844218-\$ or US-5757918-\$ or US-5742845-\$ or US-5724279-\$ or US-6081850-\$ or US-5822784-\$ or US-6092147-\$ or US-5996076-\$).did. or (US-20020059475-\$ or US-20020198837-\$).did. or (WO-9949392-\$).did. or (US-6272607-\$ or EP-964361-\$ or EP-964370-\$).did.) and (smart adj2 card)) and (class adj file) and (constant adj2 pool)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/14 17:07
S67	3	(((US-6260187-\$ or US-6081665-\$ or US-6061520-\$ or US-6026485-\$ or US-6253215-\$ or US-6332215-\$ or US-5999731-\$ or US-6279030-\$ or US-5740441-\$ or US-6366876-\$ or US-6363523-\$ or US-6311165-\$ or US-6308317-\$ or US-6282522-\$ or US-6236909-\$ or US-6005942-\$ or US-5923884-\$ or US-5844218-\$ or US-5757918-\$ or US-5742845-\$ or US-5724279-\$ or US-6081850-\$ or US-5822784-\$ or US-6092147-\$ or US-5996076-\$). did. or (US-20020059475-\$ or US-20020198837-\$).did. or (WO-9949392-\$).did. or (US-6272607-\$ or EP-964361-\$ or EP-964370-\$).did.) and (smart adj2 card)) and (class adj file) and (constant adj2 pool)) and (@ad<="19990202" or @rlad<="19990202")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/14 17:08
S68	4	(Smart adj card) and ( constant adj pool) and (class adj file) and ( convert\$4 near4 (byte code)) and (8-bit or 16-bit or 32-bit)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 12:33
S69	2	((Smart adj card) and ( constant adj pool) and (class adj file) and ( convert\$4 near4 (byte code)) and (8-bit or 16-bit or 32-bit)) and (@ad<="19990202" or @rlad<="19990202") not ((Sun adj Microsystems).as.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 14:44

S70	14	(16-bit near2 architecture) same (embedded near3 (microcontroller or processor or DSP))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 14:51
S71	1	((16-bit near2 architecture) same (embedded near3 (microcontroller or processor or DSP))) and (@ad<="19990202" or @rlad<="19990202") not ((Sun adj Microsystems).as.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 14:52
S72	2	("6,425,003").pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 14:50
S73	0	(16-bit near2 architecture) and ("6,425,003").pn.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 14:48
S74	2	("6,581,206").pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 14:50
S75	16	(16-bit near2 architecture) same ((embedded near3 (microcontroller or processor or DSP)) or "smart card" or "credit card")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 15:07
S76	2	((16-bit near2 architecture) same ((embedded near3 (microcontroller or processor or DSP)) or "smart card" or "credit card")) and (@ad<="19990202" or @rlad<="19990202") not ((Sun adj Microsystems).as.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 15:24
S77	71	(16-bit near2 (architecture or microcontroller)) and ((embedded near3 (processor or DSP)) or "smart card" or "credit card")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 15:20
S78	30	((16-bit near2 (architecture or microcontroller)) and ((embedded near3 (processor or DSP)) or "smart card" or "credit card")) and (@ad<="19990202" or @rlad<="19990202") not ((Sun adj Microsystems).as.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 15:16



S79	23	(((16-bit near2 (architecture or microcontroller)) and ((embedded near3 (processor or DSP)) or "smart card" or "credit card")) and (@ad<="19990202" or @rlad<="19990202") not ((Sun adj Microsystems).as.) ) and ((smart or Java or credit or personal) adj2 card)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 15:17
S80	8	(16-bit near2 (architecture or microcontroller or smartcard)) and (((16-bit near2 (architecture or microcontroller)) and ((embedded near3 (processor or DSP)) or "smart card" or "credit card")) and (@ad<="19990202" or @rlad<="19990202") not ((Sun adj Microsystems).as.) ) and ((smart or Java or credit or personal) adj2 card) ) and ((Java or smart) adj card)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 15:22
S81	3	16-bit near2 ((Java or smart) adj2 card)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 15:23
S82	0	(16-bit near2 ((Java or smart) adj2 card)) and (@ad<="19990202" or @rlad<="19990202") not ((Sun adj Microsystems).as.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2004/05/15 15:24
S18 4	22	(inlin\$4 and (operand\$1 near6 (substitut\$5 replac\$6))) and link\$5	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 14:25
S18 5	17	S184 and (@ad<="19990202" or @rlad<="19990202") not ((Sun adj Microsystems).as.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:42
S18 6	9	S185 and Yates.in. and (register near5 (operand and replac\$5))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 14:29
S18 7	9	S186 and (handheld or device or wireless or PDA or phone or "constant pool")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 14:30













S18 8	0	S186 and (handheld or wireless or PDA or phone or "constant pool")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 14:31
S18 9	5	S185 not S187 and (handheld or wireless or PDA or phone or "constant pool")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 14:31
S19 0	2	Wilkinson.in. and "class file" and "constant pool"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:12
S19 1	2	(Guthery or Krishna not Wilkinson).in. and "class file" and "constant pool"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:13
S19 2	0	((Guthery Krishna) not Wilkinson).in. and "class file" and "constant pool"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:35
S19 3	1	((instruction opcode) near5 replac\$4) same (( composite adj2 instruction) or (combin\$3 near4 ("two or more" or plurality or "more than one") adj3 (opcode instruction))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:41
S19 4	25	(substitut\$5 replac\$4) same (( (composite compound) adj2 instruction) or (combin\$3 near4 ("two or more" or plurality or "more than one") adj3 (opcode instruction))) )	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:41
S19 5	15	S194 and (@ad<="19990202" or @rlad<="19990202") not ((Sun adj Microsystems).as.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:50
S19 6	191	((substitut\$3 replac\$4) near5 ((compound integrated composite) adj2 instruction opcode)) and (reduc\$4 or optimi\$5 or "constant pool")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:49
S19 7	13	S194 and (@ad<="19990202" or @rlad<="19990202") not "562"/\$	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:50

S19 8	130	S196 and (@ad<="19990202" or @rlad<="19990202") not "562"/\$	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 16:02
S19 9	1	S198 and Java and (opcode near6 substitut\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:58
S20 0	16	("6151618").URPN.	USPAT	OR	ON	2005/05/20 15:58
S20 1	23	S198 and (optimi\$5 reduc\$5) and (opcode near6 substitut\$4)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 15:59
S20 2	12	optimi\$5 and (instruction near6 (substitut\$4 and inlin\$5))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 16:33
S20 3	10	S202 and (@ad<="19990202" or @rlad<="19990202") not "562"/\$	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 16:30
S20 4	6	Santhanam.in. and inlin\$4	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 16:31

S20 5	42	(US-20020059475-\$ or US-20020198837-\$ or US-20030023954-\$ or US-20040141207-\$).did. or (US-5724279-\$ or US-5740441-\$ or US-5742845-\$ or US-5757918-\$ or US-5822784-\$ or US-5844218-\$ or US-5923884-\$ or US-5996076-\$ or US-5999731-\$ or US-6005942-\$ or US-6026485-\$ or US-6061520-\$ or US-6081665-\$ or US-6081850-\$ or US-6092147-\$ or US-6236909-\$ or US-6253215-\$ or US-6260187-\$ or US-6279030-\$ or US-6282522-\$ or US-6308317-\$ or US-6311165-\$ or US-6332215-\$ or US-6363523-\$ or US-6366876-\$ or US-5930509-\$).did. or (US-5950007-\$ or US-5619665-\$ or US-6748587-\$ or US-6317872-\$ or US-6106574-\$ or US-6151618-\$ or US-6247174-\$).did. or (WO-9949392-\$).did. or (WO-9949392-\$ or EP-964370-\$ or EP-964361-\$ or US-6272607-\$).did.	US-PGPUB; USPAT; EPO; DERWENT	OR	ON	2005/05/20 16:32
S20 6	1	S205 and Java and inlin\$5 and (optimi\$4 reduc\$5)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 16:33
S20 7	6	S205 and optimi\$5 and ((instruction operand opcode) near6 (substitut\$4 inlin\$5))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/05/20 16:34
S20 8	9680	((717/110-116,126,134,139-140, 148-161) or (711/6,208) or (713/187) or (709/1,203) or (705/21,67)).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/21 14:19
S20 9	9792	((717/110-118,126,134,139-140, 148-161) or (711/6,208) or (713/187) or (709/1,203) or (705/21,67)).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2005/05/21 14:19
S21 0	0	(avoid\$4 obviat\$4 eliminat\$4 remov\$4 reduc\$4) adj4 refer\$3 adj4 "constant pool"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/16 12:18

S21 1	6	(avoid\$4 obviat\$4 eliminat\$4 remov\$4 reduc\$4) near4 refer\$5 adj4 "constant pool"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/16 12:18
S21 2	0	S211 and (@ad<="19990202" or @rlad<="19990202") not (Sun adj Microsystems).as.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/16 12:19
S21 3	4	S211 and (@ad<="19990202" or @rlad<="19990202")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/16 14:02
S21 4	2	"6308317".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/16 14:21
S21 5	11	(DSP ASIC (embedded near3 (system microcontroller controller))) and ((16-bit and 32-bit) near4 processor) and (network same (download\$4 distribut\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/16 14:27
S21 6	5	S215 and (@ad<="19990202" or @rlad<="19990202") not ((Sun adj Microsystems).as.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/16 14:25
S21 7	70	(DSP ASIC (embedded near3 (system microcontroller controller))) and ((16-bit and 32-bit) near4 processor) and (@ad<="19990202" or @rlad<="19990202")	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/16 14:28
S21 8	3	S217 and ((network same download\$4) or (software same distribut\$4) or ( upgrad\$4 same install\$4))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/12/16 14:29

# Index of /~apt/cs510jip\_1998/jags\_report

<u>Name</u>	<u>Last modified</u>	<u>Size</u>	<u>Description</u>
 <a href="#">Parent Directory</a>	21-May-1998 15:24	-	
 <a href="#">Drawing1.jpg</a>	21-May-1998 15:24	35k	
 <a href="#">Drawing2.jpg</a>	21-May-1998 15:24	37k	
 <a href="#">class_example/</a>	21-May-1998 15:24	-	
 <a href="#">classcompressor/</a>	21-May-1998 15:24	-	
 <a href="#">classloader/</a>	21-May-1998 15:24	-	
 <a href="#">classpath.bat</a>	21-May-1998 15:24	1k	
 <a href="#">design1.jpg</a>	21-May-1998 15:24	78k	
 <a href="#">design2.jpg</a>	21-May-1998 15:24	78k	
 <a href="#">design3.jpg</a>	21-May-1998 15:24	53k	
 <a href="#">readme.html</a>	21-May-1998 15:24	8k	
 <a href="#">report.html</a>	21-May-1998 15:24	24k	

# CS510JIP Understanding Java Implementation (Winter 1998)

Instructor: Andrew Tolmach

Syllabus (postscript)

## Projects!

Here is a selection of results from student projects.

- Wen Huang, Java Performance Comparison
- Matthew Mead, Java Native Interface
- Phil Grimm, Stack Code Optimization
- Jags Ramnarayan, Java Byte Code Compression

## Tools

- Version 1.1.1 of Sun's Java Development Kit is installed on the PSU CS network; do "addpkg jdk1.1.1" to add it to your set of configured packages.
- You can fetch a copy of the latest release (currently 1.1.5) for your own Sparc or MS system directly from Sun.
- Other tools are installed on the PSU CS system in /u/jipacc. These include:
  - jasmin - a JVM assembler.
    - To use, add /u/jipacc/jasmin/bin to your path (/pkgs/jdk1.1.1/bin must be in your path too).
    - Assembler documentation.
    - Handy on-line reference for the instruction set.
    - You can download your own copy from here.
  - D-Java - a JVM disassembler that can produce jasmin-format output (unlike SUN's javap -c).
    - To use, add /u/jipacc/D-Java/bin to your path.
    - For jasmin-compatible output, use the -o jasmin option.
    - For detailed use information, consult the file /u/jipacc/D-Java/readme.
    - You can download your own copy from here.
  - mocha - a bytecode-to-Java decompiler
    - To use, consult /u/jipacc/mocha/Readme.txt.
    - You can download your own copy from here. Note the legal controversy.
    - Try out another decompiler called SourceAgain (sometimes crashes my browser).
    - For more information about decompilers, take a look at Dave Dyer's article "Java decompilers compared".
  - kaffe - a JVM interpreter and JIT compiler with public source
    - To use, consult /u/jipacc/kaffe-0.9.2/README.
    - Have a look at the source code in /u/jipacc/kaffe-0.9.2/kaffe/kaffevm.
    - You can download your own copy from here.
- Reading and writing .class files.
  - To write Java .class files, try generating text output that can be fed to the jas assembler

- (installed in the class account as part of `jasmin`).
- o For an example of how to read Java `.class` files into C, take a look at the `kaffe` source code.
- o To read or write `.class` files directly in Java, consider Java Class.
- For those wanting to do code generation for the PCAT language, a complete front end (for the SPARC) and (C-based) tools for manipulating abstract syntax are now installed in `/u/jipacc/pcat`, or you can download them.

## Syllabus

- Jan. 8 Introduction: the Java language. (4up postscript)

### Reading:

- o James Gosling, "Java Intermediate Bytecodes," *Proc. ACM SIGPLAN Workshop on Intermediate Representations*, Jan. 1995.
- o James Gosling & Henry McGilton, The Java Language Environment White Paper, May 1996.
- o Tim Lindholm & Frank Yellin, The Java Virtual Machine, Sept. 1996, especially Chapters 3 and 7.
- Jan. 15 Java Virtual Machine specification. (4up postscript)
- Jan. 22 JVM Specification (continued). (Notes incomplete.) (4up postscript)

### Reading:

- o Phil Koopman, A Preliminary Exploration of Optimized Stack Code Generation
- Jan. 29 Internal structure of Java Virtual Machine. (Outline only.) Mini-interpreter source code

### Reading:

- o Anton Ertl, "Stack Caching for Interpreters", *Proc. ACM Conf. on Programming Language Design and Implementation*, June 1995.
- o Romer, et al., "The structure and performance of Interpreters", *Proc. ACM Conference on Architectural Support for Programming Languages and Operating Systems*, Oct. 1996.
- Feb. 5 Interpretation vs. just-in-time compilation.

### Reading:

- o Hummel, Azevedo, Kolson, and Nicolau, "Annotating the Java Bytecodes in Support of Optimization," *ACM 1997 Workshop on Java for Science and Engineering Computation*, Las Vegas, Nevada, June 1997.
- o Krall and Grafl, "CACAO - A 64 bit JavaVM Just-in-Time Compiler", *ACM 1997 Workshop on Java for Science and Engineering Computation*, Las Vegas, Nevada, June 1997.
- Feb. 12 Garbage collection. (4up postscript) *Deadline for agreeing on project/report topics*

### Reading:

- o Jones and Lins, Garbage Collection: Algorithms for Automatic Dynamic Memory Management (a real book, not on the web).
- o Paul Wilson's comprehensive survey on garbage collection.
- o Information about the Boehm-Weiser-Demers Conservative garbage collector.



- Feb. 19 Security for mobile code. (No lecture notes available.)

Reading:

- Drew Dean, Edward W. Felten, Dan S. Wallach, and Dirk Balfanz, Java Security: Web Browsers and Beyond, Technical Report 566-97, Department of Computer Science, Princeton University, February 1997.
- Dan S. Wallach, Dirk Balfanz, Drew Dean, and Edward W. Felten, Extensible Security Architectures for Java. *16th Symposium on Operating Systems Principles* (Saint-Malo, France), October, 1997.

- Feb. 26 Mobile code.

Reading:

- Sun's RMI Interface
- Thorn, Programming Languages for Mobile Code, (link broken?) ACM Computing Surveys, September 1997.
- Cardelli, Mobile Computing.
- Cardelli, A language with Distributed Scope (about Oblique).
- Knabe, Language Support for Mobile Agents.
- Henry Cejtin, Suresh Jagannathan, and Richard Kelsey, Higher-Order Distributed Objects, ACM Transactions on Programming Languages and Systems, September 1995. (about Kali Scheme)

- Mar. 5 Whole-program optimization. *Project/report due*.

Reading:

- Urs Hoelzle, and David Ungar, Reconciling Responsiveness with Performance in Pure Object-Oriented Languages. *ACM Transactions of Programming Languages and Systems*, 1996.
- Craig Chambers, Jeffrey Dean, and David Grove, Whole-program optimization of object-oriented languages. Tech. Rep. 96-06-02, Dept. of Computer Science, Univ. of Washington, (June, 1996).
- David Bacon, Fast and Effective Optimization of Statically Typed Object-Oriented Languages. Dissertation, University of California at Berkeley, 1997.

- Mar. 12 Wrap-up; presentation of student projects.

## Other Topics






















- General Java Implementation Links

- Bill Venners, *Inside the Java Virtual Machine*, ("Beta Version"), McGraw-Hill, 1998.
- Jon Meyer's Java Virtual Machine - Resource Guide
- Complete Java announcements index

- Compiling to the JVM from other languages.

- Languages for the Java VM
- Byte-compilation of Scheme using Java byte-codes

# Index of /~apt/cs510jip\_1998

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 <a href="#">Parent Directory</a>	02-Dec-2005 17:19	-	
 <a href="#">Foo</a>	05-Feb-1998 16:32	18k	
 <a href="#">cs510jip.html</a>	21-May-1998 15:26	11k	
 <a href="#">gc.ps</a>	13-Feb-1998 11:00	179k	
 <a href="#">gc/</a>	13-Feb-1998 11:00	-	
 <a href="#">interp.c</a>	03-Feb-1998 17:44	3k	
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 <a href="#">lecture1.ps</a>	09-Jan-1998 19:24	65k	
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 <a href="#">syllabus.ps</a>	11-Jan-1998 13:19	27k	
 <a href="#">syllabus/</a>	11-Jan-1998 13:19	-	
 <a href="#">wholeprog.txt</a>	29-Mar-1998 11:10	6k	